CONVERGENCE
BLENDING GLOBAL FINANCE

Rainforest Alliance

Rabobank

With support of learning partner:
BERTHA CENTRE
UCT GRADUATE SCHOOL OF BUSINESS

DESIGN GRANT SUMMARY

CONDUCTING A FEASIBILITY STUDY FOR A FINANCING FACILITY FOR COCOA SMALLHOLDERS IN GHANA

MAY 2018

EXECUTIVE SUMMARY

Climate change poses a threat to agricultural development, particularly for the 800,000 cocoa smallholder farmers in Ghana. Climate smart agriculture (CSA) is an approach for smallholders to remain productive and increase resilience in the face of climate change. However, CSA practices – including the renovation and rehabilitation of cocoa trees – require capital that smallholders cannot easily access.

Convergence awarded a feasibility study grant to the Rainforest Alliance and Rabobank's development group, Rabo Partnerships, to explore an investment and risk sharing facility for local financial institutions in Ghana to on-lend to smallholder cocoa farmers for CSA investments. The feasibility study analyzed the Ghanaian cocoa sector and financial ecosystem, concluding with a multi-stakeholder workshop to present and validate key findings.

Tree replanting requires significant upfront investments that can only be repaid in the long-term. The Ghana Cocoa Board – COCOBOD – is involved in every aspect of this value chain and financial intermediary credit to the agriculture sector is limited because of the complexity as well as the perceived and real risks associated with agriculture lending.

CSA investments can be financed if smallholders have enough funds to overcome the negative cash-flow cycle in the first three years. COCOBOD-orientated solutions and fund-orientated solutions to increase availability of smallholder funds could be further explored. Rainforest Alliance is actively exploring fund-orientated solutions.

Overall, the feasibility study found that blended finance solutions to increase bank lending to smallholders are difficult to structure and implement. However, blended finance can still play a role in the space if focused on aggregators who can on-lend to smallholders. Lastly, value-chain specific solutions in a single country are unlikely to catalyze international private investment.

INTRODUCTION

Ghana is the world's second largest cocoa producer. Cocoa is the country's main agricultural export and contributes to the livelihood of 800,000 Ghanaian smallholder cocoa farmers[1]. Low productivity is a significant cause of poverty due to aging cocoa trees past peak productivity, pests and diseases, and depleted soil fertility. Further, climate change and climate variability pose a significant threat to the continued growth, and even viability, of the cocoa sector. Without measures to help the cocoa sector adapt to climate change, smallholders will have to divest from cocoa or diversify income sources, which would reduce annual national production by 30%.

For cocoa producers to become and/or remain productive and resilient, climate smart agriculture (CSA) should be implemented. CSA is an approach to reorient agricultural production to the new realities of climate change, which includes renovation & rehabilitation (R&R) of cocoa trees and crop diversification. However, CSA often requires sizeable investments that many smallholders cannot afford, and local financial institutions are largely unwilling to finance CSA due to the high risk associated with smallholder lending. Risks include lack of smallholder collateral, uncertain repayment capacity, and lack of appropriate financial mechanisms (e.g., payback periods for loans are not aligned to crop cycles).

In mid-2016, Convergence awarded a feasibility study grant to the Rainforest Alliance and Rabobank's development group, Rabo Partnerships, to explore an investment and risk sharing facility for local financial institutions in Ghana to on-lend to smallholder cocoa farmers and their organizations for CSA investments. Convergence offers feasibility study and proof of concept grant funding for practitioners to design catalytic blended finance vehicles that aim to attract private capital to global development at scale.

[1] Smallholder cocoa farmers are defined as farmers managing small size plots on which they grow cocoa relying almost exclusively on family labor. Based on the survey conducted for this study, the average size of a smallholder cocoa farm in Ghana is 2.8ha.

The original intent was to explore a guarantee mechanism that would be deployed by development funders to incentivize local financial institutions to lend to smallholders from their own balance sheet.

Rainforest Alliance is a global nonprofit that works with people whose livelihoods depend on land. Rainforest Alliance has worked in Ghana since 2009 to address deforestation due to cocoa production and to help smallholders adapt to climate change. By the end of 2017, over 74,000 Ghanaian cocoa smallholders and more than 10.2% of the world's cocoa production was Rainforest Alliance certified[2]. The Rainforest Alliance certification has also been proven to significantly increase productivity and net incomes[3].

Rabobank has worked in more than 50 countries for the last 30 years. Since 1989, Rabobank has offered management advice and technical assistance in rural banking, cooperative development, and agricultural value chain development.

Convergence has partnered with the Bertha Centre for Social Innovation and Entrepreneurship at the University of Cape Town's Graduate School of Business to share learnings from grantees' design activities.

FEASIBILITY STUDY APPROACH

The proposed facility built on Rainforest Alliance's previous work under the CGIAR's[4] flagship "Climate Smart Value Chains (CSVC)" Program[5] as well as the work of the World Cocoa Foundation (WCF)[6]. Rainforest Alliance and Rabobank conducted research for the feasibility study, including literature reviews, expert interviews, and field visits to i) assess the health of Ghana's domestic banking sector, ii) complete financial analysis on CSA practices, and iii) disaggregate Ghana's financial intermediary landscape.

The team first assessed the health of Ghana's domestic banking sector based on a set of key indicators, including size/depth, access to financial services, efficiency and stability[7]. In addition, the team considered the sector's overall credit allocation to agriculture, as well as the current legal and regulatory framework.

For the financial analysis, the team explored two broad sets of CSA practices: i) farm R&R and ii) CSA infrastructure investments. Farm R&R was chosen as the primary focus for the financial analysis because smallholders typically see investments in replantation and input provision as the most critical. Rainforest Alliance leveraged its partnerships with CGIAR's CSVC program to access data collected from 300 smallholders by IITA and modelled costs, investment returns, and productivity for smallholders who implement R&R practices.

To disaggregate Ghana's financial intermediary landscape, the team used a basic framework to classify intermediaries into five organizational forms: i) informal, ii) non-bank financial institutions (NBFI), iii) NBFI network, iv) microfinance network, and v) licensed banks. Organizational forms were differentiated based on common areas of operation, characteristics, client needs, organizational bottlenecks, and appetite for rural finance. The team assessed each segment, identifying 10 financial institutions with a sizable agriculture portfolio or related lending activity, and conducted field visits to better understand the key risks and barriers to increased financing to smallholders.

A workshop took place in Accra in April 2017 to validate key research findings and present potential blended finance structures to stakeholders from the public, philanthropic and private sectors for feedback.

KEY RESEARCH FINDINGS

GHANA'S COCOA SECTOR

Cocoa is predominately grown in the Western part[8] of Ghana, which is increasingly vulnerable to climate change and climate variability. Yearly and monthly minimum and maximum temperatures are predicted to increase by up to 2.0°C by 2050[9]. As a result, suitability of current cocoa-growing areas will decrease substantially by 2050 and climate change will further increase pressure on forest areas. Without measures to help the cocoa sector adapt to climate change, approximately 60,000 households will have to divest from cocoa production and an additional 410,000 households will have to diversify their income sources. If smallholders divest and diversify, this could result in national production declining by 270 metric tons – one third of current annual production[10].

Adopting CSA practices is vital for the future of cocoa smallholders in Ghana. Many CSA practices already form the backbone of sustainable cocoa production, with investments in farm replantation and input provision viewed as the most critical.

[2] Rainforest Alliance 2018 Impact Report
[3] 2012 study conducted by the Committee on Sustainability Assessment on 452 Rainforest Alliance's certified farms in Côte D'Ivoire
[4] Formerly the Consultative Group for International Agricultural Research
[5] In partnership with International Institute of Tropical Agriculture (IITA), CIAT, Root Capital and Sustainable Food Lab
[6] WCF represents over 80% of the global chocolate industry, convening public & private partners on efforts for sustainable cocoa supply chains
[7] World Bank's assessment reports
[8] Main producing region with 50% of total production
[9] 2011 CIAT report "Predicting the Impact of Climate Change on the Cocoa-Growing Regions in Ghana and Cote d'Ivoire"
[10] CIAT Note "The economic case for climate action in cocoa production"

However, farm replanting requires significant upfront investments that can only be repaid by smallholders in the longer term, as newly planted cocoa trees need a minimum period of three to four years to start producing enough cocoa to generate cash flow. Smallholders engaging in cocoa replanting activities face an income gap period that is, for the vast majority, not economically sustainable.

COCOBOD has a monopoly over most of Ghana's cocoa sector and shapes nearly every aspect of the cocoa value chain. Cocoa sales typically begin at the smallholder level: smallholders sell cocoa to licensed buying companies (LBCs), LBCs sell to the COCOBOD, and COCOBOD then sells to exporters or food processors domestically and globally. COCOBOD sets cocoa prices and trade terms, controls margins, and provides inputs (e.g., seedlings, fertilizer). They are also a key financial intermediary and capacity builder for cocoa smallholders, and the main provider of financing to LBCs to purchase cocoa.

LBCs are also key players in the cocoa value chain, buying and selling cocoa from smallholders. Based on stakeholder interviews, most smallholders sell to only one LBC. The provision of input and services are one of the main drivers for smallholders to sell cocoa to a particular LBC, as LBCs are a primary source of financing for smallholders outside of private loans and savings. LBCs require considerable amounts of working capital, especially during harvest seasons. Some of this financing is provided by COCOBOD, which finances LBCs by raising funds through its Syndicated Pre-Export Finance Facility, where funds are raised from an international banking syndicate and then allocated to LBCs to purchase cocoa from smallholders.

For smallholders to achieve high productivity, the utilization of quality and disease resistant seedlings is critical; 35%[11] of Ghana's cocoa tree stocks need to be replaced because they are too old or affected by the cocoa swollen shoot virus (CSSV). Quality inputs (e.g., seeds, fertilizers) are not widely available or adequately used by smallholders. COCOBOD provides free seeds, capacity building, and subsidized fertilizer to smallholders, but these programs are limited in scope and outreach. Additional challenges include:

- Low utilization and poor application of fertilizers
- Limited smallholder access to input finance
- Limited access to COCOBOD programs, as farms must first be inspected by a COCOBOD agent
- Poor infrastructure and delays in input distribution
- Market distortion and lack of incentive to produce high quality cocoa by smallholders
- Lack of incentives for private sector to play a role in input provision[12]

[11] In 2017, 17% of cocoa area surveyed by COCOBOD was affected by CSSV and 23% was covered with cocoa trees older than 30 years
[12] Quality control and inputs must be approved by COCOBOD

CLIMATE SMART AGRICULTURE

CSA is a particularly important topic for the Ghana cocoa sector given the potential social and economic impacts of climate change. As such a number of initiatives are already working to support resilience and adaptation efforts.

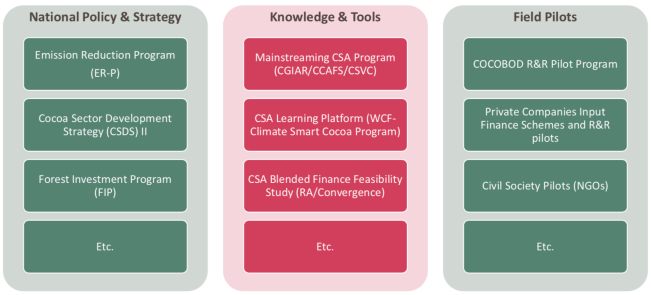

Figure 1: Landscape of select CSA Initiatives in Ghanaian cocoa sector

At the smallholder level, the key drivers for smallholders to invest in CSA are the profitability and cash flow that derive from these investments. The main cash flow drivers for smallholders are cocoa yield and prices.

Data used to calculate repayment capacity of smallholders was initially collected by Rainforest Alliance and IITA under the CSVC Program. This data provided valuable insights into the impact of CSA – in particular, R&R – on farm-level P&L.

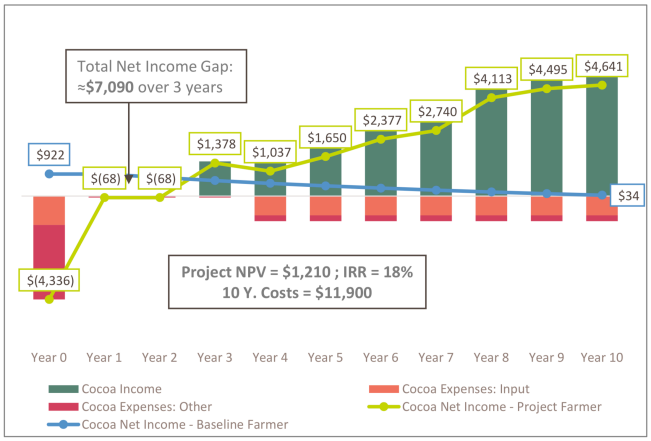

Figure 2: 10 Year P&L for replanting average 2.8Ha farm, assuming 100% of the trees are replanted in the first year[13].

To replant, upfront costs include inputs (seedlings and agrochemicals), labor and transportation costs. Because it takes 3 to 4 years for cocoa trees to become productive, smallholders face negative cash-flows in the first years but can expect subsequent increases in revenues as trees reach peak productivity in year 10. Per the example above, replanting costs equal $4,336 in the first year and imply a total loss of $7,090 over the first 3 years. However, net income totals $22,295 over 10 years with a net present value of $1,210 assuming a 15% discount rate. The intervention

[13] Key model assumptions include: stable price conditions throughout the year (no inflation), financing covers all cocoa expenses (except family labor) and the negative income period

therefore has a strong return – 18% IRR. Potential financing facilities should consider that farm replantation requires significant upfront investments that can only be repaid by smallholders in the longer-term.

GHANA'S FINANCIAL ECOSYSTEM

The team used a basic framework to categorize the various types of financial intermediaries in Ghana and assessed the financial ecosystem accordingly. Ghanaian smallholders are mainly served by informal finance providers, rural banks, and MFIs, while LBCs are served by commercial banks. Informal finance providers include money lenders and family/friends, who are the primary sources of funding for farm-related investments. Formal financial institutions have limited exposure and knowledge of lending to the agriculture sector and mainly focus on large businesses.

Type	Number
Informal Group	Savings Groups, Informal Money Lenders
Non-Bank Financial Institutions (NBFIs)	70 institutions including saving and loans organizations, finance houses, remittance companies, mortgage and leasing companies, credit bureaus
NBFI Network	141 Rural & Savings Banks under the APEX Bank Network
MFI	429 MFIs
Licensed Bank	33 banks

Figure 3: Financial intermediary segments in Ghana

Despite the presence of diverse bank and non-bank financial institutions, only a few have an agriculture portfolio and are therefore positioned to potentially play a role in lending to smallholders. Only ~42% of Ghana's population (older than 15 years old) have a bank account, while the penetration ratio in rural areas is much lower at 30%. In general, financial institutions lack adequate funding and knowledge to develop products and services adapted to the needs of smallholders.

Banks are cautious to lend funds to smallholders due to commonly known challenges, including low and erratic cash flow streams, high transactional costs, and lack of collateral (often driven by land ownership issues and contract enforceability). Credit allocation to the agriculture sector by banks in Ghana was only 4% in 2016[14]. Recognizing this, the Bank of Ghana, the Ministry of Food & Agriculture, and the Alliance for a Green Revolution in Africa (AGRA) have collaborated to establish a new initiative called Ghana Incentive-based Risk Sharing System for Agricultural Lending (GIRSAL), which aims to increase financial institutions' lending to the agriculture sector, including the cocoa sector.

Name	Client base	Branch in cocoa region
Advans Ghana	Farmers	No
Agriculture Development Bank	LBCs	Yes
ARB Apex Bank	Farmers	Yes
Barclays Bank of Ghana	Farmers / LBCs / Traders	Yes
Ecobank	Farmers / LBCs / Traders	Yes
Fidelity Bank	LBCs / Traders	Yes
GCB Banks	LBCs	Yes
Opportunity International Bank	Farmers	Limited
Root Capital	Farmers	No

Figure 4: Key financial intermediaries with an agriculture lending portfolio

The limited activity of commercial banks in the cocoa sector means that impact investors/social lenders (such as Root Capital, Oikocredit, Rabobank Rural Fund) and impact funds (such as the Africa Agriculture Trade Investment Fund and the Land Degradation Neutrality Fund) can play an important role.

FINANCING SOLUTIONS TO CONSIDER

Solutions to support financing for smallholder CSA investment should take into account several considerations:

- CSA investments can be financed if smallholders have enough funds to overcome the negative cash-flow cycle in the first three years and/or if smallholders can borrow money at concessional/patient terms
- Involvement of COCOBOD is critical
- The solution should build on existing structures to increase the chances of successful implementation
- Loans could be denominated in USD. Cocoa as an international commodity is priced in USD, providing a natural FX hedge; however, smallholders costs are still in Ghanaian Cedi
- Involvement of local banks is critical to create a long-term sustainable solution and to boost financial inclusion
- Risks should be shared across commercial partners in the value chain
- Scaling considerations need to be included in the design; public support is a pre-requisite for scalability

With these considerations in mind, the team recommended exploring two solution areas.

[14] Financial Stability Report Bank of Ghana 2016

COCOBOD-ORIENTED SOLUTIONS

The team developed two potential COCOBOD solutions, due to its control of the value chain. The collective finance solution is envisioned to be a new longer-term (five-year) revolving investment facility set up alongside COCOBOD's existing syndicated pre-export finance facility. Financing is based on the credit worthiness of COCOBOD, together with a guarantee from the Ghana government or other entities. Proceeds of the facility would be used directly by COCOBOD, or through partnership, to deliver CSA training, inputs, and services to smallholders. Repayment to the facility is secured by COCOBOD on the spread between farm-gate price and net price margin (the entire cocoa sector collectively contributes to the repayment of the facility). Alternatively, the targeted finance solution is similar in scope except repayments derive from "in kind" payments (cocoa deliveries) from smallholders who participate by entering into a loan arrangement with a COCOBOD entity.

Regardless of solution, COCOBOD's overwhelming presence across the value chain puts a large burden on it to perform. If COCOBOD continues to play this role, then it is important to ensure it is highly professionalized, efficient, transparent, and market-sensitive. It should be noted that this would be a challenge, even for many developed countries, and is not a model that many have implemented.

FUND-ORIENTED SOLUTIONS

The team also considered two fund solutions. One option is to establish a new dedicated CSA/R&R fund, structured as a long-term revolving blended finance fund with seven to fifteen-year financing commitments, intended to pool together public and private sector capital in a layered capital structure with a technical assistance facility. Proceeds from the fund would be used for direct investment in CSA/R&R projects led by private sector stakeholders (e.g., input providers, LBCs, agribusinesses, smallholder organization). Repayments to the facility would be derived directly from projects managed by investees. A second option is to make direct CSA/R&R related investments into projects by leveraging existing impact funds with a mandate to invest in the agriculture or conservation space. Rainforest Alliance is actively exploring these fund-orientated solutions with a range of stakeholders.

SUMMARY REFLECTIONS

Convergence's mandate is to support blended finance solutions that catalyze private investment in sustainable development in developing countries. Several summary reflections have been distilled based on the findings of the feasibility study, with an eye to Convergence's mandate:

- Blended finance solutions to increase bank lending to smallholders are difficult to structure and implement: Incentivising local banks to increase lending activity direct to smallholders has been a key theme in agricultural development for some time, with many pilot projects but few scaled solutions. Engagement with local banks through this feasibility study reiterated how difficult it is for banks to lend to this segment based on traditional business models. Bank lending to smallholders may be the ideal solution, but it is the hardest solution given that banks generally lack expertise and understanding of smallholder agriculture.

- However, blended finance can still play a role if focused on beneficiaries higher up the value chain. Solutions that support smallholders indirectly (e.g., through input providers, cooperatives, and buyers) represent a more feasible approach for bank lending. With bank financing, organizations can on-lend to smallholders (likely in-kind through input provision) and provide broader benefits through technical assistance and other support.

- Single-country value chain-specific solutions are unlikely to catalyze international private investment: If the objective is to mobilize commercial investment from abroad, value chain-specific solutions in a single country may not be the best approach. While the specificity here – the cocoa value chain in Ghana – has a number of upsides, one major downside is that risks are simply too concentrated for many investors to consider. In general, solutions that pool and diversify assets across sectors and countries have had more success in attracting international investors as risks are diversified.

SOURCES

- Interviews with 23 experts, review of 84 research reports
- Stakeholder workshop with over 50 participants

ABOUT CONVERGENCE

CONVERGENCE is the global network for blended finance. We generate blended finance data, intelligence, and deal flow to increase private sector investment in developing countries.

BLENDED FINANCE uses catalytic capital from public or philanthropic sources to scale up private sector investment in emerging markets to realize the SDGs.

Our GLOBAL MEMBERSHIP includes public, private, and philanthropic investors as well as sponsors of transactions and funds. We offer this community a curated, online platform to connect with each other on blended finance transactions in progress, as well as exclusive access to original market intelligence and knowledge products such as case studies, reports, trainings, and webinars. To accelerate advances in the field, Convergence also provides grants for the design of vehicles that could attract private capital to global development at scale.

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